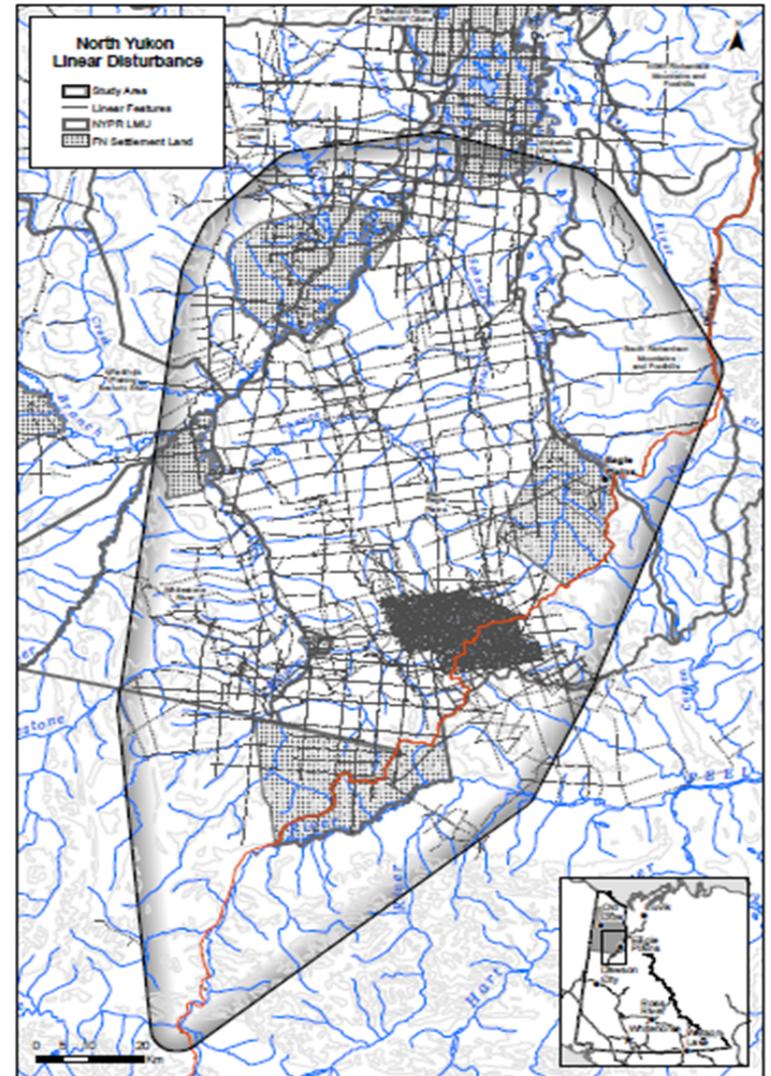


Research and monitoring activities and needs related to ABoVE and POLAR activities

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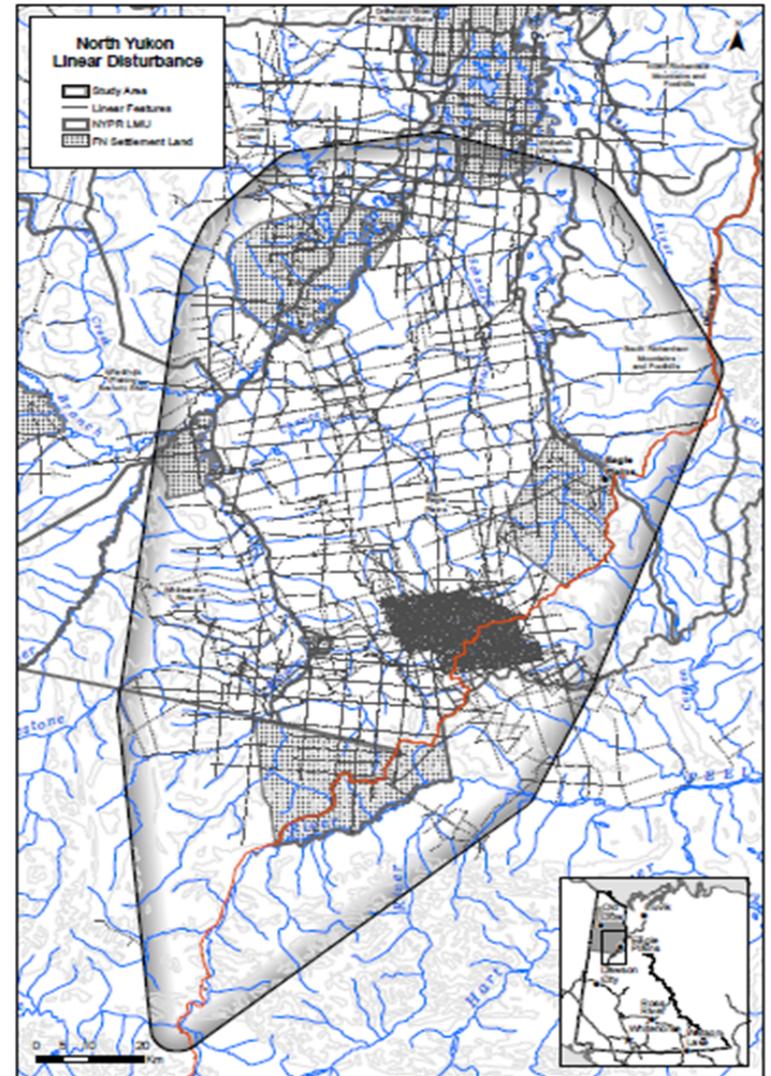
Ongoing research and monitoring *Related to ABoVe and POLAR activities*

- *Recovery Modeling of Legacy Oil and Gas Disturbances in the Winter Range of the Porcupine Caribou herd.*
 - Part 1 - Ecological Succession Component.
- *Understand the variation and dynamics of recovery in terms of natural succession and unique ecosystem and landscape attributes (e.g. permafrost).*
- *Define the ecological status of legacy oil and gas exploration disturbances and their successional recovery in the North Yukon based on ecological parameters (plant composition and abundance, soil structure, forest cover, depth to permafrost depth, etc.).*



Ongoing research and monitoring *Related to ABoVe and POLAR activities*

- *Recovery Modeling of Legacy Oil and Gas Disturbances in the Winter Range of the Porcupine Caribou herd.*
Part 2 - Wildlife Habitat Component.
- *Determine the potential for ongoing effects of legacy linear disturbance on habitat and travel selection by the Porcupine Caribou Herd.*
- *Assess whether movement by medium and large mammals (e.g., wolves, lynx, wolverine, caribou, moose, and bears) differs between historic seismic lines and the surrounding landscapes.*



Planned research and monitoring

Related to ABoVe and POLAR activities

- *Site Recovery Potential Mapping as Guidance for Exploration and Reclamation within Permafrost Terrain in Yukon*
 - The prediction of resilience of existing ground conditions to surface disturbance, or its recovery potential, based on an understanding of local terrain, permafrost, drainage and soil characteristics.

Management related research & monitoring needs

Related to ABoVe and POLAR activities

- **Energy Mines and Resources – Science and Technology Functions**

- The **Agriculture Branch** offers a range of programs and services in support of the Yukon agricultural industry including services relating to soils, permafrost, geography and climate. As well the Agriculture Branch monitors animal and plant diseases and invasive species that affect the agricultural industry.
- The **Assessment and Abandoned Mines branch** manages the environmental liabilities, responsibilities and obligations associated with Yukon Abandoned mines mine sites.
- **Client Services and Inspections branch** provide inspection, monitoring, enforcement, compliance and community client support services for natural resources which includes land use, timber harvesting, mining and mineral exploration. The Water Quality Research and laboratory services section focuses on the affect placer-related sediments may have on the aquatic environment.
- The **Corporate Policy and Planning Branch** is responsible for resource policy, regional land-use planning and integrated resource management. The integrated resource management function includes the development of best management practises for a number of resource and environmental values and research in support of these initiatives as well as responsibility for cross branch resource management files such as invasive species management, establishment of landscape and wetlands classification standards and establishment of revegetation guidelines.
- The **Energy Solutions Centre's** mandate is to encourage improvements in energy efficiency and the adoption of more forms of renewable energy. They work with other innovation and research centres to assess solar and wind energy potential and approaches to carbon sequestration.
- The **Forest Management Branch** oversees the development and management of Yukon's forest resources including maintaining an inventory of forest resources, conducting a forest science program and monitoring forest health.
- The **Land Management Branch** controls the majority of vacant lands in the territory – permits are issued for a variety of uses including geo-technical and hydrological studies.
- The **Minerals Branch** has a number of programs including mining land use, major mine licencing, the Yukon Geological Survey and the Yukon Placer Secretariat.
- **Yukon Geological Survey** provides geoscience and related technical information, provides support for external scientists carrying out geological research in Yukon and funds the Minerals and Petroleum Environmental Research Group program administered by the Northern Research Institute of Yukon College.
- The **Yukon Placer Secretariat** was established to coordinate the implementation of a Fish Habitat Management System and have developed Aquatic Health and Water Quality Monitoring Protocol as well as a watershed atlas tool that provides information on fish and fish habitat.
- Yukon's **Oil and Gas Resources branch** is mandated to encourage the development of Yukon's oil and gas resource potential, manage Yukon's oil and gas resources and regulate oil and gas activity.

Management related research & monitoring needs

Related to ABoVe and POLAR activities

- Issues on our radar...
- Fisheries Abundance and Health – significant effort has gone into the development of a Fish Habitat Management System for Yukon Placer Mining in support of the preservation of healthy fish stocks and fish habitat in Yukon. Changes to the Fisheries Act which focus on the “fishery” instead of fish habitat undermine the importance of the non-fishery fish in the aquatic food chain and the importance of fish habitat in the life stages of the fish stocks.
- Infrastructure Development Support – Infrastructure development is a component of humans using the landscape and the development of northern resources. Changing environmental conditions such as climate warming, flooding and rapid landscape movement that effect or influence the development and placement of infrastructure are important to understand and are of interest and concern for the non-renewable resource sectors.
- Food security - maintaining the ability of northern peoples to harvest and grow food. This includes fishing, hunting and growing food – both meat and vegetables, as well as seed security of northern strains of hardy food sources.
- Water quality and water quantity security – for consumption, support of communities, support of industry, generation of electricity, etc.

Opportunities for ABoVE/POLAR for engagement, education, outreach

- *Resource Managers Information Exchange (ReMix) – December 2016, Whitehorse*

Recommendations for ABoVE/POLAR for engagement, education, outreach

- Facilitation of Partnerships
- Logistics Support